

### AMENDMENTS TO THE SPECIFICATION

Please replace paragraph beginning at page 1 line 7 with the following amended paragraph:

-- The Talairach transformation is widely used for analysis of neurological images. It involves identifying eight landmarks, which are used to define a coordinate system. The Talairach landmarks subdivide the brain into 12 cuboids, and the Talairach transformation is to warp the images within each cuboid linearly. In this way the brain images are normalised by a three-dimensional piece-wise linear warping. This scheme has several applications, in particular because it makes it possible to compare neurological images from different individuals. One improvement on this scheme, while following its conceptual rationale, is the improvement of the definitions of the landmarks, to give "modified Talairach landmarks" (as defined in the article "Modified Talairach Landmarks", W. L. Nowinski, Acta Neurochirurgica, 2001, 143, p1045 – 1057; ~~the disclosure of which is incorporated herein by reference~~). In summary, the modified Talairach landmarks are derived by introducing three intercommissural distances: central, internal and tangential. Although these modified Talairach landmarks are conceptually equivalent to the original Talairach landmarks, they have several advantages and overcome some limitations of the original Talairach landmarks. --

Please replace paragraph beginning at page 5 line 2) with the following amended paragraph:

-- From this data, the midsagittal plane (MSP) is determined. This is preferably done using the method disclosed in WO02/069827, "Method and apparatus for determining symmetry in 2D and 3D images", by Hu and Nowinski (~~the disclosure of which is incorporated herein by reference~~). In summary, the method disclosed in WO02/069827 includes the steps of (1) determining axial slices to be further processed for fissure line segments, (2) approximating fissure line segments in axial slices by

optimization of local symmetry index and fissure pattern measure, and (3) calculating the plane equation of MSP from the approximated fissure line segments via histogram analysis. However, the invention is not limited in this respect, and any other technique for determining the MSP may also be applied. Indeed, it would also be possible within the scope of the invention for the input data to specify the MSP. --

**Please replace paragraph beginning at page 6 line 4 with the following amended paragraph:**

-- The coordinates of the anterior commissure (AC) and posterior commissure (PC) are then determined automatically. This can be done by the method disclosed in WO02/43003, "Methods and apparatus for processing medical images", by Nowinski and Thirunavuukarasuu ~~(the disclosure of which is incorporated herein by reference)~~, although once more the invention is not limited in this respect. In summary, the method disclosed in WO02/43003 calculates the coordinates of the AC and PC using peaks and valleys of a graph of the density profile of the image measured along a line or peaks and valleys of a projection along a specified direction. --

**Please replace paragraph beginning at page 7 line 16 with the following amended paragraph:**

-- In step 3.2 an optimum threshold is determined, based on the range-constrained weighted variance thresholding method. This includes the following steps, which are explained in a separate patent application by two of the present inventors: "Methods and apparatus for binarizing images", Singapore patent application 200307531-4, by Q. M. Hu, Z. Hou, and W. L. Nowinski, which was still unpublished at the priority data date of the present application, ~~and the disclosure of which is incorporated by reference.~~ --